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What Is a

FARM CONSERVATION PLAN?

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UNITED STATES DEPARTMENT OF AGRICULTURE

What Is a

FARM CONSERVATION PLAN?

By the Soil Conservation Service

If you are a farmer, you know that your farm is different from any other farm. The soils on your farm probably are different from those on any other farm. Most likely, the soils are not alike in different fields on your own farm.

And, you don't run your farm in exactly the same way as anyone else—you don't have exactly the same tools and equipment—you don't grow exactly the same crops and keep the same kind and number of livestock each year.

In one way, however, you are probably like all other farmers—you continually make plans about how to run your farm. You may keep your plans in your head or you may put them down on paper, but you do have a plan. You plan what crops to grow each year, which livestock to keep or sell, when and how to remodel the farm buildings and hundreds of other details.

Also, you probably do a lot of planning about how to produce more efficiently and how to protect your soil so that it will continue to grow good crops year after year.

When you make plans about how you will conserve the soil for the future while increasing its efficient use now, you are doing farm conservation planning.

Nearly a million and a half farmers and ranchers in the United States now have written conservation plans for their operating units. Soil Conservation Service men assigned to soil and water conservation districts help them in making these plans. There are nearly 3,000 soil conservation districts in the Nation, covering about 93 percent of the land in farms and ranches. More districts are being organized each year.

Soil Conservation District Help

The main role of a soil conservation district is to encourage and help land owners and operators to make and carry out conservation plans. Each farm conservation plan is made especially to fit a particular farm, by the person who runs the farm, with the help of a soil conservationist of the Soil Conservation Service (SCS).

If you want this kind of help and live in a soil conservation district, you should see your district governing body. Your district is governed by a group of your neighbors—they are called supervi-

sors, commissioners, or directors, depending on the State you live in. They will ask you to sign a farmer-district cooperative agreement because soil conservation districts furnish help only to those who request it and are interested in carrying on a conservation program.

When your request has been approved, your district supervisors will see that you receive help from the SCS soil conservationist assigned to work in your district.

Making Your Farm Conservation Plan

One of the best ways to prepare yourself for making your conservation plan is to meet with neighbors who are also interested in conservation farming. As a group, you can discuss the needs and opportunities for conserving and using the different kinds of soil in your community. Also, group discussion should help you understand better the responsibilities of those involved in the local conservation program—the farmer, the district board members, the cooperating agencies.

Then you and the soil conservationist go over your farm. He will have with him a soil-survey map showing the different soils on your farm. Also he will have these soils classified according to their capability for use and need for treatment.

The land-capability classification is a practical grouping of soils where soil characteristics and climate are considered together as they influence use, management, and production of general farm crops. Classes designated as I through VIII indicate increasing hazards and limitations to safe and economic use. Subclasses show the principal kinds of problems involved—e for erosion, w for wetness, s for soil, and c for climate. Arabic numbers designate capability units—each unit with soils that are nearly alike in plant growth and management needs.

You and the soil conservationist discuss the kinds of soil you have. As you discuss their capability, you will see the problems and opportunities for improvement in each field. You tell the conservationist the type of farming you want to do—what crops you want to grow and what livestock you want to keep. He will need to know what your personal goals or objectives are in developing your land.

Thus informed, the conservationist will then help you explore different ways to overcome problems and take advantage of opportunities to make better use of your soil, water, and plant resources. He will help, but you must make all decisions on what will be done. You will need to be thinking several years ahead as the two of you discuss the several good ways to develop and improve your land. And both of you will need to give enough time and attention to this planning job so that you can arrive at firm decisions.

Many things may be involved in your considerations as you reach LAND USE decisions field by field. You may wish to change some field boundaries so that all the soil in each field is suited for the same purpose and can be farmed the same. You may decide to convert some cropland to tree or grass crops. If you are short of cropland, you may decide to plow up some pasture or clear some woods on land well suited for cultivation. And if there is a good potential for income-producing-recreation enterprises in your community, you may decide to use some of your land for such things as hunting areas, campsites, or nature study. You may have a good location for a pond which could provide swimming, boating, and fishing.

In addition to the USE of each field, you will need to consider how you will TREAT each field to get the desired results. This usually involves more than one conservation practice on each field.

For example, you may decide to install tile drains, to smooth the surface, to lime and fertilize, and to follow an intensive cropping system on a bottomland field to be used as cropland.

On a sloping field to be used as cropland, you may decide to make grassed waterways, build terraces or establish contour strip cropping, do contour farming, follow a conservation cropping system involving grass-legume meadow and row crops, and lime and fertilize for good crop yields.

You may decide to plant pasture fields to different forage plants that will give you not only the amount of grazing your livestock will need but also the kinds of plants they can use as much of the year as possible. The treatment you plan might include liming and fertilizing, methods for proper grazing use, stockwater pond or spring development, and brush and weed control.

You may decide to give the woodland field complete conservation treatment. Such treatment might include protection from fire and livestock damage, woodland weeding, thinning, and intermediate harvest cutting.

But regardless of what you decide to do to each field, be sure you have thought through all the different ways you can accomplish your objectives and how each is likely to affect you.

At this stage of planning, you will have decided how each field is to be used and treated. Then you decide WHEN and HOW to do it. You plan the best way for you to build terraces, dams, or other conservation structures and the best time to

build them. You decide how and when to establish the grassed waterways, field borders, or pastures in your plan. You figure out the best time to make needed changes in field boundaries.

The SCS conservationist can give you many good suggestions, but you must decide what you want to do and how and when to do it. Some farmers can make all of these decisions within a few days or weeks; others may take much longer.

As you make your planning decisions, the SCS conservationist will record them on a conservation-plan map and in an understandable narrative form. This is your farm conservation plan. It is a guide for your farming operations for several years. You will be given a copy of the plan; and the soil conservation district will keep a copy. An example of a farm conservation plan, made in this way, is shown on the following pages of this leaflet.

Putting Your Plan Into Operation

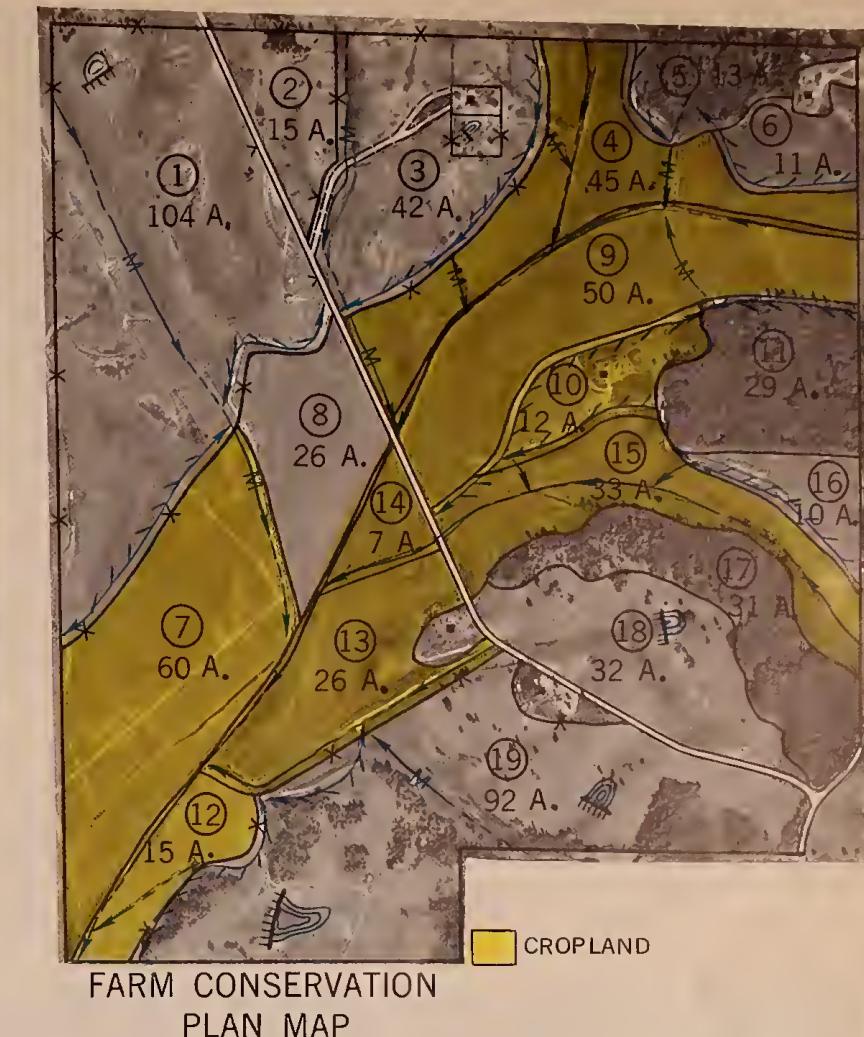
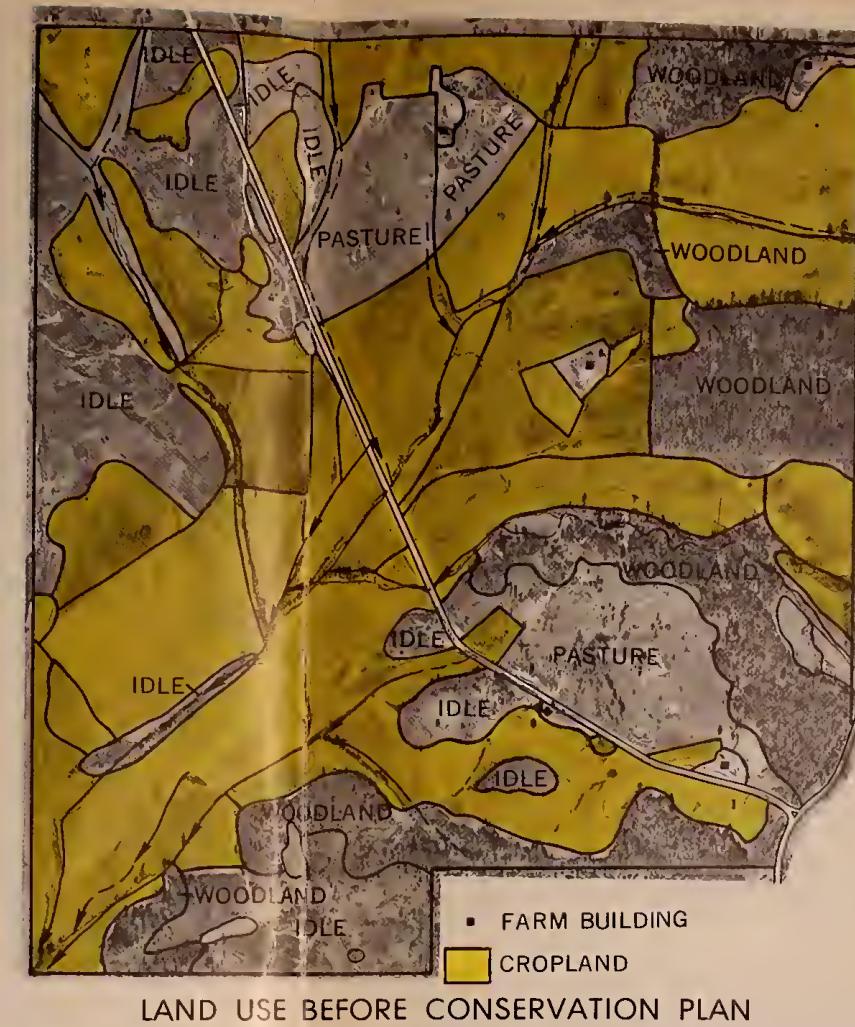
Your soil conservation district supervisors, then, will arrange to give you the technical help you need in putting the plan into operation. They may be able to help you get equipment, planting stock, or other materials you need. Also, they can advise you of specialized assistance you may get from other people and agencies.

Because the plan is written, you do not have to trust your memory. And if changes in markets, prices, or other circumstances make it desirable for you to change the plan, this is easy to do. Any technical help you need in changing your plan can be obtained through your soil conservation district.

Example of a Farm Conservation Plan

The farm shown in this example is a cotton-beef cattle farm in the Southeast. Maps and legends in addition to the record of the landowner's decisions on land use and treatment follow. As in most conservation plans, this farmer found that some changes were needed as he carried out the plan he decided upon in 1941. During these 20-odd years a change was made from patch farming with row crops by tenants and sharecroppers with mules to a more efficient system where row crops, hay, and pasture crops could be farmed with power equipment. Beef cattle were added to utilize hay and pasture, much of which is now grown on land unsuited to cultivation and severely eroded from past use. Cotton, still the important cash crop, is now confined to bottom land which is well suited to this and other row-crop production. A hunting area for doves was added as an income-producing-recreation enterprise.

The conservation plan presented here includes these changes. Some of the results of applying this plan are given on page 7.



Soils on This Farm and Their Capability

Soils on this southeastern farm are described thus:

Soils in class II have some natural condition that limits the kinds of plants they can produce or that calls for some easily applied conservation practice when they are cultivated. They are suited for use as cropland, grassland, woodland, wildlife land, or recreation land.

IIe3 40B2—Grenada silt loam. Nearly level or gently sloping land with slight or moderate erosion. Soil is moderately deep and moderately well drained and has a pan at a depth of about 20 inches.

IIw2 2A—Collins silt loam. Silty soil in slightly wet bottom land that may overflow. May be either acid or alkaline.

IIw3 4A—Falaya silt loam. Somewhat poorly drained bottom land subject to moderate flooding.

IIw4 43A1, 43B1, 43B2—Calloway silt loam. Nearly level to gently sloping land with slight to moderate erosion. Shallow, cold, and somewhat poorly drained soil.

Soils in class III have more serious or more numerous limitations than those in class II. Thus they are more restricted in the crops they can pro-

duce or, when cultivated, call for conservation practices more difficult to install or keep working efficiently. They are suited for use as cropland, grassland, woodland, wildlife land, or recreation land.

IIIe1 31C3—Loring silt loam; 39C2—Memphis and Natchez silt loams. Gently to moderately sloping land with moderate to severe erosion. Soils are deep and well drained.

IIIe4 40B3—Grenada silt loam. Gently sloping, severely eroded land. Soil is shallow or moderately deep and moderately well drained and has a pan at a depth of about 20 inches.

IIIe5 40C2—Grenada silt loam. Moderately sloping land with slight to moderate erosion. Soil is moderately deep and moderately well drained and has a pan at a depth of about 20 inches.

IIIw3 23A—Henry silt loam. Nearly level, wet, cold land. Soil is shallow and poorly drained.

Soils in class IV have very severe limitations that require very careful management. They are suitable for occasional but not regular cultivation and for grassland, woodland, wildlife land, or recreation land.

IVe1 31D3—Loring silt loam. Steep land with moderate to severe erosion. Soil is deep and well drained.

IVe4 40C3—Grenada silt loam. Moderately sloping land with severe erosion. Soil is moderately well drained and has a silty surface and subsoil and a pan at a depth of about 20 inches.

Soils in class VI have severe limitations that make them generally unsuited for cultivation and that restrict their use to pasture, range, woodland, recreation, or wildlife food and cover.

VIe1 39E3—Memphis and Natchez silt loams. Steep to very steep land with moderate to severe erosion. Soils are deep and well drained with silt loam surfaces and silty clay loam subsoils.

VIe2 40D3—Grenada silt loam. Steep land with severe erosion. Soil is moderately deep to a pan and is moderately well drained.

Soils in class VII have very severe limitations that make them unsuited for cultivation and that restrict their use to pasture, range, woodland, recreation, or wildlife food and cover with careful management.

VIIe3 60—Gullied land. Moderately sloping to very steep land, severely gullied. Underlying materials range from silt loams to gravels and clays.

PUBLIC ROAD.....

FARM BUILDING.....

FENCE.....

FIELD BOUNDARY.....

APPROXIMATE ACREAGE 24 A.

DRAINAGE MAINS..... — — →

AND LATERALS

GRASSED WATERWAY.. — — M

DIVERSION.....

POUND WITH DAM.....

CROPLAND: FIELDS 4, 7, 9, 10, 12, 13, 14, 15

PASTURELAND: FIELDS 1, 3, 19

HAYLAND: FIELDS 6, 16, 18

WOODLAND: FIELDS 2, 5, 11, 17

WILDLIFE LAND: FIELD 8

Information about the suitability of the soils on this farm for wood-crop production follows:

Grenada silt loam (40B2, 40B3, 40C2, 40C3, 40D3)—Loblolly pine is best suited for planting when converting this land to woodland. When well stocked and managed, it is capable of producing about 230 board-feet to the acre as a yearly average. Because of the pan some windthrow damage is likely. Commercial hardwoods such as cherry-bark oak and sweetgum make satisfactory growth on uneroded areas.

Collins silt loam (2A)—Cottonwood, cherry-bark oak, willow oak, and sweetgum on this soil produce

about 500 board-feet an acre annually. Loblolly pine produces nearly as well. Flooding may restrict the use of equipment 1 to 3 months a year.

Memphis and Natchez silt loams (39E3)—Will produce about 400 board-feet an acre annually of cherry-bark oak or sweetgum but much less pine. Steep slopes limit equipment operations and require special attention to location of roads and skid trails.

Gullied land (60)—Loblolly pine will afford the best erosion control, watershed protection, and growth; however, erosion has so severely damaged the site that growth will be slow.

Record of cooperator's decisions

Field	Acreage (approx.)	Use	Conservation treatment
1, 3, 19	238	Pasture-land	Construct diversions and 3 shaped grassed waterways. Smooth gullies. Build 4 ponds and fences. Lime, fertilize, and establish bermudagrass and annual lespedeza. Control weeds with chemicals. Re-lime and re-fertilize for moderate yields. Rotate grazing and prevent overuse. Stock the large pond in field 19 with largemouth bass and bluegill. Fertilize water for heavy fish production. Install safety equipment at pond.
4, 7, 9, 12, 13, 14, 15	236	Cropland	Construct drainage channel; fill old channel sections with spoil from new channel; build 1 levee road with spoil; build drainage laterals and field ditches and 6 shaped grassed waterways. Install a grade-stabilization structure (drop inlet) at each location where a lateral enters the drainage channel. Grow annual crops of corn, cotton, and sorghum silage. Fertilize for profitable yields, shred corn and cotton stalks for mulch, and arrange rows for good drainage. Irrigate crops with sprinkler system from nearby upstream irrigation reservoirs. Leave grass unmowed along channel for rabbits.
10	12	Cropland	Grow truck crops each year. Construct diversions. Cultivate on the contour. Use barnyard manure and fertilize liberally.
6, 16, 18	53	Hayland	Smooth gullies in field 18. Lime and fertilize for profitable yields. Establish bermudagrass and annual lespedeza. Re-fertilize and re-lime to maintain yields.
8	26	Wildlife land	Each year grow browntop millet in cultivated rows for doves and allow hunting in season for income. Plant about 70 days before hunting season. Fertilize with about 500 pounds of 6-12-6 to the acre.
2	15	Woodland	Establish full stand of loblolly pine. Exclude livestock. Keep out fire.
5, 11, 17	73	Woodland	Manage existing woodland for such hardwoods as white oak, cherry-bark oak, sweetgum, and yellow poplar. Make intermediate cutting every tenth year beginning in 1963. Keep out livestock and wildfire. Leave an average of 3 trees per acre of hickory, mulberry, walnut, or elm for squirrels.
	19	Miscel- laneous	Establish and maintain ground cover as necessary to control erosion.

Results of Conservation Farming

Application of planned land use adjustments and conservation practices made it possible for the farmer to receive several benefits. By reducing the amount of cropland on the sloping, eroded fields and farming more efficiently the more level, less eroded fields, he reduced operating costs and increased net returns. In converting 138 acres of cropland to other uses, pastureland was increased by 83 acres, hayland by 22, wildlife land by 26, and woodland by 7. Also, much idle land was converted to uses that produce income. Now all his land is at work in line with its capability, contributing to the economy of the farm.

In 1940, a few scrub cattle subsisted on volunteer grasses that grew on abandoned cropland. No other pasture was available.

By 1962, forage production of pasture, hay, and silage was sufficient to maintain about 120 beef animals in the breeding herd. Part of the corn and silage produced is used to fatten some of the steers which are held over after weaning.

The combination of the breeding herd and the feedlot operation enables this farmer to keep flexible in balancing livestock numbers with his annual feed and forage production. With this flexibility, he is able to regulate grazing as necessary to keep pastures in good condition. By rotating grazing between pasture fields, he is able to practice proper pasture use in years of both favorable and unfavorable rainfall.

Now after several years experience with grass and cattle, this farmer can increase the efficiency of his beef enterprise through better pasture management.

Soil erosion on sloping fields of this southeastern farm had progressed to a ruinous rate by 1940. Sediment from slopes upstream filled the channels so that they no longer could carry runoff. Flooding and scouring of bottom lands recurred several times a year. Runoff from slopes surged into stream channels after rainstorms, causing rapid erosion in natural draws and at all points where it entered stream channels.

Extensively gullied areas in abandoned crop fields were eroding at a yearly rate of about 225 tons an acre—a surface removal of about $1\frac{1}{2}$ inches each year. Rate of average annual soil loss on the cultivated, more gently sloping parts of upland fields was as low as 25 tons an acre. Other upland cultivated fields were eroding at rates in between these two extremes.

Now covered with sod, these same fields are eroding at yearly rates of from 3 to less than 1 ton an acre. Gentle slopes extending into bottom lands kept in cultivation lose about 2 tons to the acre—a tolerable rate by SCS standards.

Bottom lands no longer scour, improved channels now hold most of the runoff without serious flooding, and drains entering the main channels no longer eat and cave back into the rich adjacent fields because drop-inlet structures have been installed.



Conservation farming.

Community Values From Conservation Farming

Most farmers who carry out conservation programs on their farms are more efficient and have higher sustained incomes than they had before

they began this way of farming. In practicing soil and water conservation they protect and improve the land resource base of the Nation. In addition, they add to the economic structure of their communities. Thus conservation farming makes a vital contribution to rural-areas development.



SCS conservationist explains land-capability map to group of soil conservation district cooperators.

Washington, D.C.

Slightly revised October 1965

This publication supersedes Leaflet 249, What Is a Conservation Farm Plan?